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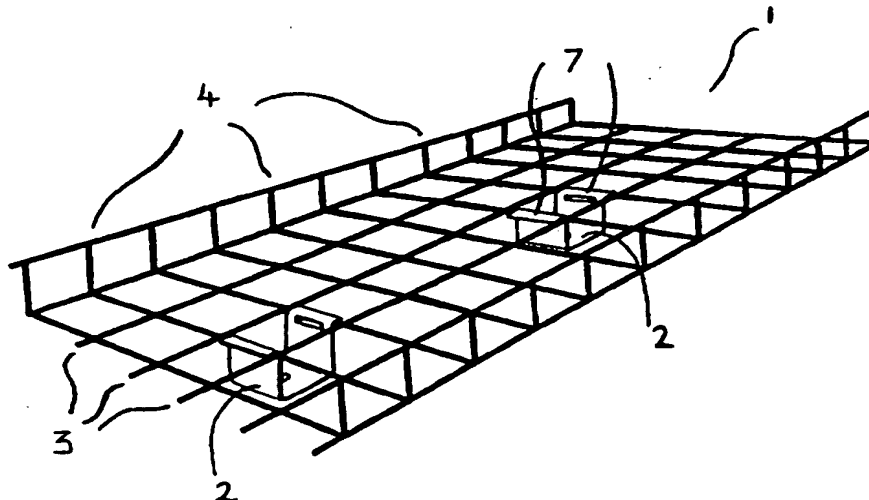
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US 5384937 A

(58) Field of Search
UK CL (Edition N) H2C CCC CCG
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(54) **Cable carrying systems**

(57) Cable carrying systems for carrying electrical or optical cabling consisting of lengths of mesh channelling which are supported above or below a surface by supporting legs 2. These legs 2 are resiliently locatable between either longitudinal 3 or transverse 4 channel members. Each leg may be made from a single piece of resilient material and may have ridges in the base to increase the resilience of the legs. The engaging means 7 on each leg may consist of upper and lower members (8,9, Figure 4) and the lower of these may be upwardly inclined to give more effective engagement.

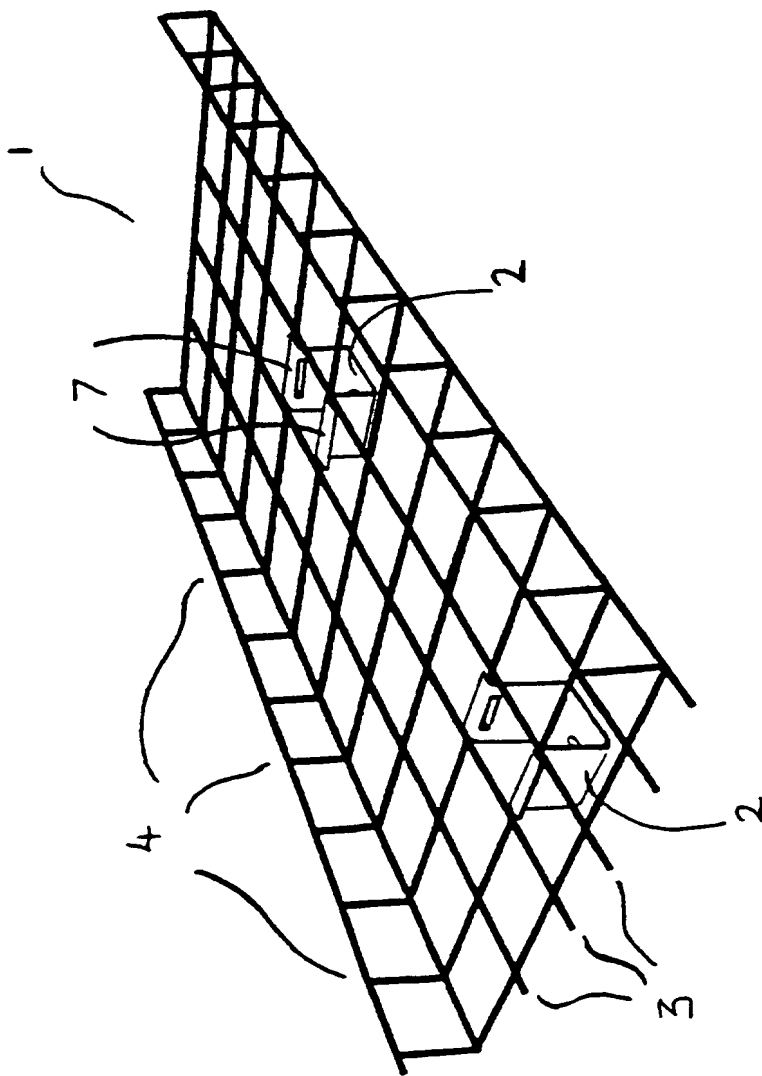
FIG.1



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FIG. 1



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FIG. 2

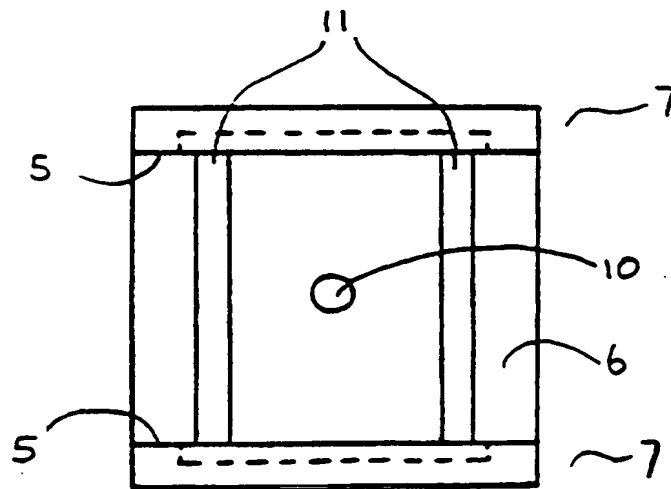


FIG. 3

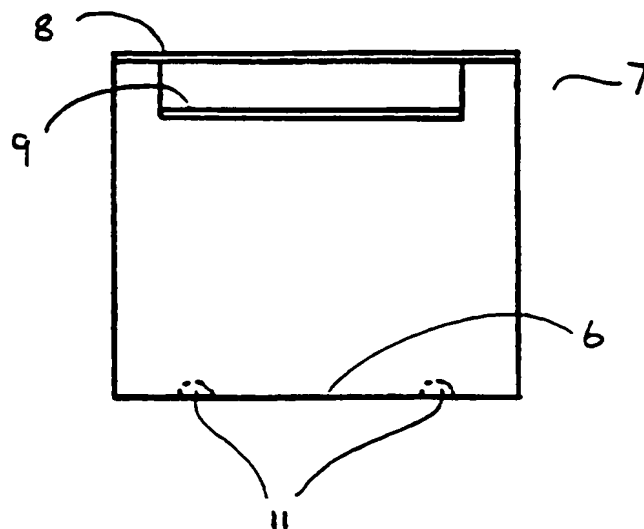


FIG. 5

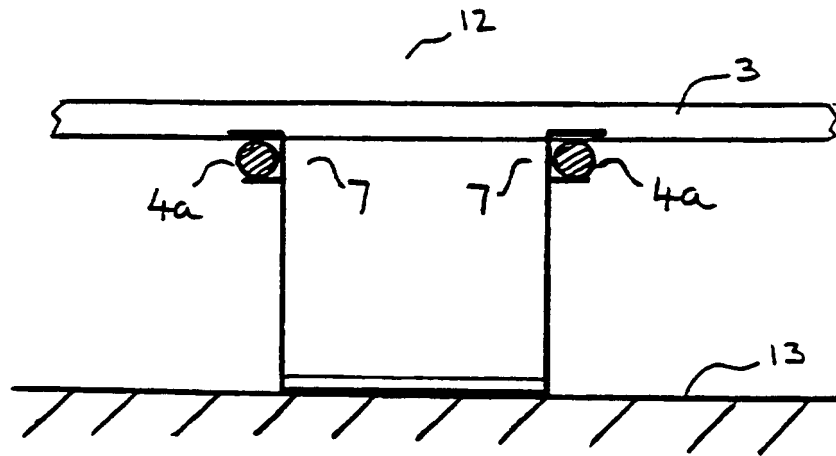
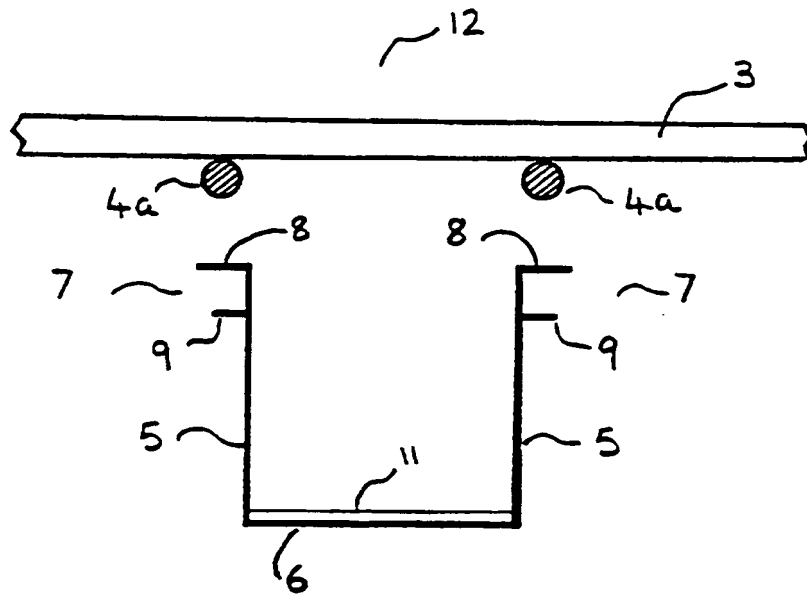


FIG. 4



CABLE CARRYING SYSTEMSSUMMARY OF THE INVENTION

5 The present invention relates to cable carrying systems, which comprise at least one length of mesh channelling which is to be supported above or below a surface. Such systems can be used to carry electrical power cables, electrical signal cables and optical fibre
10 cables in environments such as office complexes. Often there are extremely large numbers of cables which need to be routed in an orderly way in inaccessible places such as under floors.

15 A problem with such systems is to make them quick, easy and economical to install even in these inaccessible places, whilst ensuring that the mesh channelling is supported in a structurally secure way.

20 Accordingly, the invention provides a cable carrying system comprising,

 at least one length of mesh channelling formed of spaced longitudinal and spaced transverse channel
25 members, at least some of said longitudinal and transverse channel members being arranged as pairs spaced

by a predetermined distance and,

a plurality of supporting legs, of which

5 each supporting leg comprises a pair of side walls,
spaced by said predetermined distance, and a first side
wall of this pair having at an upper end an engaging
means for engaging with a first member of one of said
pairs of channel members, the second side wall having an
10 engaging means for engaging with the second channel
member in the pair, and the pair of side walls being
resiliently locatable within said pair of channel members
so that when so engaged they form the supporting leg.

15 Preferably each supporting leg is formed from a
single U-shaped piece of resilient material.

In a further development of the invention at least
one ridge is added to the base of the U-shaped piece of
20 resilient material in a direction substantially
perpendicular to the side walls.

When using the system, a plurality of lengths of
mesh channelling will usually be used with each length
25 being supported by at least one supporting leg.

As a result of said features, lengths of mesh channelling can be supported above or below a surface in a structurally secure way. Moreover, the supporting legs can be located on the mesh channelling quickly and easily without the use of any tools. This is of obvious advantage when cable carrying systems are to be installed in inaccessible places.

BRIEF DESCRIPTION OF THE DRAWINGS

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An embodiment of the invention will now be described by way of example with reference to the accompanying diagrammatic drawings in which:

15 Figure 1 is a perspective view of a cable carrying system supported above a surface.

Figure 2 is a plan view of a supporting leg.

20 Figure 3 is a side elevation of a supporting leg.

Figure 4 is a fragmentary, exploded cross-sectional view in a plane through the base of the cable carrying system and a front elevation of a supporting leg.

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Figure 5 is a fragmentary cross-sectional view taken

in the same plane as figure 3 but in non-exploded form.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

5 Referring to Figure 1 a cable carrying system comprises a length of mesh channelling 1 and two supporting legs 2. The length of mesh channelling comprises equispaced longitudinal members 3, located above equispaced transverse members 4.

10

Referring to figures 2, 3 and 4 each supporting leg 2 comprises a pair of side walls 5, a base 6 and an engaging means 7 at the upper end of each of the side walls 5. The engaging means 7, comprises an upper lip 8 and a lower lip 9. The base 6 has an aperture 10 for accepting a bolt and ridges 11 for providing additional resilience. Each supporting leg 2, is essentially formed from a single sheet of mild steel. This sheet is cut and bent during manufacture to form the ridges 11, the engaging means 7 and to form the base 6 and the side walls 5 in a U-shape.

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20

A portion of the mesh channelling 12 consists of longitudinal members 3 and a pair transverse members 4a as shown in figures 4 and 5.

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A supporting leg 2 is firmly attached to the length of mesh channelling 1 by locating each of the engaging means 7 around the respective transverse member 4a as shown in figure 5. This locating is achieved by pinching together the two side walls 5 and the supporting leg 2 is held in place due to the resilient nature of the supporting leg 2 itself.

In the embodiment, where the mesh channelling 1 is supported above a surface 13, the lower lips 9 support the transverse member 4a. An alternative to this is where the mesh channelling 1 is suspended below a surface and the legs 2 extend upwards and in this case the upper lips 8 would support the transverse members 4a.

15

In the embodiment, the supporting legs 2 are located onto transverse members 4 in the mesh channelling 1. An alternative to this is for the supporting legs 2 to be located onto longitudinal members 3 in the mesh channelling. In the embodiment the transverse members are located below the longitudinal members and therefore it is advantageous for the supporting legs to engage with transverse members. This is because then the upper lips 8 will interfere with the cabling as little as possible. Alternatively, the longitudinal members can be located below the transverse members. In this case it will be

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advantageous for the supporting legs to engage with the longitudinal members.

5 The arrangement of the supporting legs is not limited to either one or other of those described above and any given installation may require its own specific arrangement.

10 In the embodiment, the length of mesh channelling is supported by two supporting legs 2. An alternative to this is for the length of mesh channelling 1 to be supported by a differing number of supporting legs 2, located in differing positions.

15 In an alternative to the embodiment described each of the lower lips 9 can be upwardly inclined. Thus a V-shaped channel is formed between the lower lip 9 and the side wall 5 in each engaging means 7. When a supporting leg 2 is located onto the length of mesh channelling 1,
20 each transverse member 4a will rest in a respective V-shaped channel and hence each transverse member 4a will be gripped more effectively by the respective engaging means 7.

CLAIMS

1. A cable carrying system comprising,

5 at least one length of mesh channelling formed of spaced longitudinal and spaced transverse channel members, at least some of said longitudinal and transverse channel members being arranged as pairs spaced by a predetermined distance and,

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a plurality of supporting legs, of which

each supporting leg comprises a pair of side walls, spaced by said predetermined distance, and a first side
15 wall of this pair having at an upper end an engaging means for engaging with a first member of one of said pairs of channel members, the second side wall having an engaging means for engaging with the second channel member in the pair, and the pair of side walls being
20 resiliently locatable within said pair of channel members so that when so engaged they form the supporting leg.

2. A cable carrying system according to claim 1, wherein each supporting leg is formed from a single 'U'-
25 shaped piece of resilient material.

3. A cable carrying system according to claim 2, wherein at least one ridge is added to the base of the 'U'-shaped piece of resilient material, in a direction substantially perpendicular to the side walls.

5

4. A cable carrying system according to any one of the claims 1 to 3, wherein each engaging means comprises an upper member and a lower member and the lower member is upwardly inclined.

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5. A cable carrying system substantially as described herein with reference to the accompanying diagrammatic drawings.

15 6. A supporting leg arranged to be used in a cable carrying system according to any of the preceding claims.

Amendments to the claims have been filed as follows

1. A cable carrying system comprising,

5 at least one length of mesh channelling formed of spaced longitudinal and spaced transverse channel members, at least some of said longitudinal and transverse channel members being arranged as pairs spaced by a predetermined distance and,

10

a plurality of supporting legs, of which

each supporting leg comprises a pair of side walls, and a first side wall of this pair having at an upper end
15 an engaging means for engaging with a first member of one of said pairs of channel members, the second side wall having an engaging means for engaging with the second channel member in the pair, and the pair of side walls being resiliently locatable within said pair of channel
20 members so that when so engaged they form the supporting leg.

2. A cable carrying system according to claim 1, wherein each supporting leg is formed from a single 'U'-
25 shaped piece of resilient material.

3. A cable carrying system according to claim 2, wherein at least one ridge is added to the base of the 'U'-shaped piece of resilient material, in a direction substantially perpendicular to the side walls.

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4. A cable carrying system according to any one of the claims 1 to 3, wherein each engaging means comprises an upper member and a lower member and the lower member is upwardly inclined.

10

5. A cable carrying system substantially as described herein with reference to the accompanying diagrammatic drawings.

15 6. A supporting leg arranged to be used in a cable carrying system according to any of the preceding claims.

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Patents Act 1977
Examiner's report to the Comptroller under Section 17
(The Search report)

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Relevant Technical Fields

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(ii) Int Cl (Ed.6) H02G (3/04)

Search Examiner
MR J L FREEMAN

Date of completion of Search
13 SEPTEMBER 1995

Databases (see below)

(i) UK Patent Office collections of GB, EP, WO and US patent specifications.

(ii)

Documents considered relevant following a search in respect of Claims :-
1 TO 6

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| Category | Identity of document and relevant passages | Relevant to claim(s) |
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| A | US 5384937 (B SIMON) | 1 |

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